

Amendments to the Claims

Please amend Claims 1, 3, 5-7, and 9 and add Claims 11-13 to read as follows.

1. (Currently Amended) A method for manufacturing a liquid discharge head including a flow path which communicates with a discharge port used to discharge a liquid, and a substrate on which an energy generating element for generating energy that is used to discharge liquid is arranged, the method comprising the steps of:

~~forming a solid layer for forming a flow path on a substrate on which an energy generating element is arranged to generate energy that is used to discharge liquid;~~

~~forming, on the substrate where the solid layer is mounted, a coating layer for coating the solid layer;~~

providing a layer of a composition containing a copolymer of methacrylic anhydride and methacrylate ester on the substrate;

heating the layer of the composition at a temperature of 120°C to 150°C;

patterning the heated layer of the composition to form a solid layer for forming the flow path;

providing a coating layer so as to coat the solid layer;

~~forming a the discharge port used to discharge a liquid, through a photolithographic process, in comprising exposing and developing the coating layer formed on the solid layer; and~~

~~removing the solid layer to form a the flow path that communicates with the energy generating element and the discharge port,~~

wherein a material used for the coating layer contains a cationically polymerizable chemical compound, a cationic photopolymerization initiator and an inhibitor of cationic photopolymerization, and

~~wherein a material of the solid layer that forms a boundary with a portion where the discharge port of the coating layer is formed contains a copolymer of methacrylic anhydride and methacrylate ester.~~

2. (Previously Presented) A method according to claim 1, wherein the copolymer of methacrylic anhydride and methacrylate ester has a weight-average molecular weight of 20,000 to 100,000 and a ratio of a content of methacrylic anhydride of 5 to 30 weight% relative to the copolymer.

3. (Currently Amended) A method according to claim 2, wherein the ~~copolymer is a~~ copolymer of methacrylic anhydride and methacrylate ester is a methyl methacrylate.

4. (Previously Presented) A method according to claim 1, wherein the inhibitor of cationic photopolymerization is a basic material having a pair of nonshared electrons.

5. (Currently Amended) A method according to claim 4, wherein the ~~inhibitor of cationic photopolymerization~~ the basic material is a nitrogen-containing compound ~~having a pair of nonshared electrons~~.

6. (Currently Amended) A method according to claim 5, wherein the ~~inhibitor of~~
~~cationic photopolymerization~~ nitrogen-containing compound is an amine compound.

7. (Currently Amended) A method according to claim 1, wherein the step of ~~forming~~
providing the solid layer includes ~~the steps of:~~

forming, on the substrate, a first positive type photosensitive material layer that is
exposed to ionizing radiation of a first wavelength,

forming, on the first positive type photosensitive material layer, a second positive type
photosensitive material layer of the composition containing the copolymer of methacrylic
anhydride and methacrylate ester that is exposed to ionizing radiation of a second wavelength
that is different from the first wavelength,

irradiating the ionizing radiation of the second wavelength to the substrate where the
first and the second positive type photosensitive material layers are formed, and forming a
desired pattern on the second positive type photosensitive material layer, and

irradiating the ionizing radiation of the first wavelength to the substrate where the first
and the second positive type photosensitive material layers are formed, and forming a desired
pattern on the first positive type photosensitive material layer,

wherein the second positive type photosensitive material layer forms ~~the~~ a boundary
with the ~~coated~~ coating layer.

8. (Previously Presented) A method according to claim 7, wherein a material for
forming the first positive type photosensitive material layer contains
polymethylisopropenylketone.

9. (Currently Amended) A liquid discharge head manufactured by a method according to ~~one of claims~~ claim 1 to 8, wherein a discharge port formation material used for forming the discharge port for the liquid discharge head contains a cationically polymerizable chemical compound, a cationic photopolymerization initiator and an inhibitor of cationic photopolymerization.

10. (Previously Presented) A method according to claim 6, wherein the amine compound comprises triethanolamine.

11. (New) A method according to claim 1, wherein the coating layer is applied on the solid layer using a liquid mixture of methyl isobutyl ketone and xylene as a solvent, and in the photolithographic process, a part of the coating layer corresponding to the discharge port is removed using a liquid mixture of methyl isobutyl ketone and xylene as a liquid developer.

12. (New) A method according to claim 1, wherein the composition includes a solvent.

13. (New) A method according to claim 12, wherein the solvent is diglyme.